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DATA FROM THE COMMERCIAL FISHERY FOR LAKE WHITEFISH,  
Coregonus clupeaformis (Mitchill), ON GREAT SLAVE LAKE,  
NORTHWEST TERRITORIES, 1982

by

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## ABSTRACT

Roberge, M.M., G. Low, and C.J. Read. 1984. Data from the commercial fishery for lake whitefish, Coregonus clupeaformis (Mitchill), on Great Slave Lake, Northwest Territories, 1982. Can. Data Rep. Fish. Aquat. Sci. 437: iv + 24 p.

Data from the fish plant sampling and fishery observations on the Great Slave Lake commercial fishery, summer and winter, are presented. Production and catch per unit of effort by vessel type at weekly intervals by fishing area are shown. A total of 3 570 lake whitefish were sampled for age, length and weight. From the fishery observations, 39 vessels lifting 956 nets (158 067 m) were sampled for catch, effort, and cullage.

Key words: catch composition; catch/effort; commercial fishing; cullage; exploitation; fishery management; monitoring.

## RESUME

Roberge, M.M., G. Low, and C.J. Read. 1984. Data from the commercial fishery for lake whitefish, Coregonus clupeaformis (Mitchill), on Great Slave Lake, Northwest Territories, 1982. Can. Data Rep. Fish. Aquat. Sci. 437: iv + 24 p.

Ce rapport présente des données sur l'échantillonnage effectué à l'usine de transformation du poisson et sur l'étude des pêcheries commerciales d'été et d'hiver, au Grand lac des Esclaves. Il fournit des statistiques hebdomadaires sur la production et les prises par unité d'effort selon le genre de navire et la zone de pêche. Les données sur l'âge, la longueur et le poids proviennent d'un échantillonnage de 3 570 grands corégones, tandis que celles sur les prises, l'effort et le tri proviennent d'une étude portant sur 39 vaisseaux de pêche commerciale et 956 filets (158 067 m).

Mots-clés: composition des prises; rapport prise/effort; pêche commerciale; tri; exploitation; aménagement des pêches; contrôle.

## INTRODUCTION

Commercial fishing first began on Great Slave Lake in 1945. Since then the fishery has been monitored annually for total catch; however, few studies were conducted on the effects of exploitation on the stock(s) of the commercial species (Rawson 1951, 1953a; Keleher 1972; and Kennedy 1956) until the 1970's.

In 1971, the Department of Fisheries began a long term stock assessment and monitoring program designed to collect information considered essential for the sound management of the Great Slave Lake commercial fishery. These programs are consistent with the recommendations of the Great Slave Working Party (1969) outlined in Roberge et al. (1982).

In order to meet these objectives, a three component field study was implemented including fish plant sampling, fishery observations and experimental gillnetting. Results of this work for the years 1972 to 1981 have been described by Bond (1974a, b; 1975a, b), Bond and Turnbull (1973), Moshenko et al. (1978; 1981), Moshenko and Low (1978a, b; 1979; 1980) and Roberge et al. (1982).

During 1982, two components, fish plant sampling and fishery observations, were carried out. This report summarizes, in tabular form the data gathered from each of these two components.

## STUDY AREA

Great Slave Lake lies in the southwest corner of the District of Mackenzie, Northwest Territories (Fig. 1). It is the fifth largest lake in North America, having a surface area of 27 195 km<sup>2</sup> and a drainage area of 985 300 km<sup>2</sup>. Stretching 440 km from its extreme east end to the outlet of the Mackenzie River, the lake straddles two physiographic regions. The north-east shore of the north arm and the east arm lie within the Precambrian Shield and have irregular, precipitous margins. The western portion of the lake overlies the alluvial plain known as the Mackenzie Lowlands and has few islands and gently sloping shores. The rivers entering the lake from the shield are cold, clear and rapidly flowing while those entering from the south are slow flowing brown water streams laden with silt during spring and early summer. While the western basin has a maximum depth of approximately 165 m and a mean depth of 42 m, a depth of 625 m has been recorded in the east arm. Physical and biological characteristics of the lake have been previously described in detail by Rawson (1950, 1951, 1953a, b).

## DESCRIPTION OF THE FISHERY

Great Slave Lake has been fished commercially since 1945. During the 1950's annual production of whitefish and trout averaged 2.9 million kilograms as the large accumulated stock was exploited. Since the 1950's commercial production of both species has decreased annually

and whitefish and trout have reacted differently to exploitation (Keleher 1972). The west end of the lake is now being managed for whitefish production with minimal regard to lake trout which have been unable to withstand commercial gillnetting. Other than the mesh change in 1977 from 139 mm to 133 mm, gillnets of 139 mm stretched mesh have been the sole means of exploitation with no restriction on number of nets since 1961. During its history almost the entire lake has been open to commercial fishing although certain areas have been closed to protect subsistence and sport fishing (Fig. 1 and Northwest Territories Fishery Regulations 1982). The east arm of Great Slave Lake (Area VI) was closed to commercial fishing in 1974 and is being managed exclusively for subsistence and sport fishing (Moshenko and Gillman 1978).

A minimum of 25 fish species occur in the lake (Keleher 1972) of which only five are of commercial importance. The major commercial species in decreasing order of importance are lake whitefish, Coregonus clupeaformis (Mitchill); lake trout, Salvelinus namaycush (Walbaum); inconnu, Stenodus leucichthys (Pallas); northern pike, Esox lucius (Linnaeus); and walleye (pickerel), Stizostedion vitreum vitreum (Mitchill). Cisco, Coregonus spp., burbot, Lota lota (Linnaeus) and longnose sucker, Catostomus catostomus (Forster) may constitute up to 40% or more of the total species catch; however, they are culled on the lake due to lack of market demand.

For the management of the commercial fishery the lake is divided into six administrative areas and a portion of the total annual quota of 1 681 900 kilograms round weight of whitefish and trout is allotted to each area (Table 2). The annual quota is based on the period commencing 1 November and terminating on the following 31 October and applies to the combined catch for both the winter and summer fisheries. More detailed histories of the commercial fishery on Great Slave Lake are discussed by Kennedy (1956), Keleher (1972) and Bond and Turnbull (1973). The description of the winter and summer fisheries is summarized by Moshenko et al. (1978).

In 1982, commercial fishing in Area III, which until the present time was sparse, increased significantly. Because of the historically low harvest of whitefish and trout (<25% of total allowable catch) and the length/age composition of the whitefish inhabiting the area, an increase in the area quota was made. The annual quota for Area III was increased from 45 500 kg to 79 400 kg for the 1982 season only.

## MATERIALS AND METHODS

### FISH PLANT SAMPLING

Monthly summaries of the landings by administrative area of the five commercial species were compiled from the Freshwater Fish Marketing Corporation (FFMC) sales slips by Fisheries and Oceans staff in Hay River.

The following table lists the factors used to convert various species and forms to round weight:

Species	Form	Conversion Factor
Whitefish	dressed	x 1.17
Pickereel	dressed	x 1.22
	headless dressed	x 1.39
Trout	dressed	x 1.21
	headless dressed	x 1.53
Pike	dressed	x 1.22
	headless dressed	x 1.53
Inconnu	dressed	x 1.16
	headless dressed	x 1.35

Production values presented in this report (Tables 1, 2) include whitefish culls at the plant but do not include an estimate of whitefish discarded on the lake due to deterioration following extended periods in the nets (usually the result of storms). Fishermen cull these fish as the nets are lifted but no record is made to the numbers or estimated weight. Fish which do not meet the market size and quality requirements are further culled by graders at the fish plant and the weight is recorded on the sales slip. Cullage on the lake was not subtracted from the quota this season. Cullage will be subtracted from the lake quota when management programs provide a good estimate of lake cullage.

Commercial landings of whitefish were sampled at each of the four fish plants: Simpson Island, Wool Bay, Moraine Bay and Hay River (Fig. 1). Sampling time schedule was based on a year-round schedule as follows:

Winter - January 1 to March 30  
 Spring - June 10 to July 10  
 Summer - July 21 to August 21  
 Fall - September 1 to September 30

Boxes of fish were selected at random from the catches of the various fishermen as they arrived at the plant. All whitefish in the box, up to a maximum of 70 fish per individual fisherman were sampled. Thus, the sample of 200 whitefish should have been taken from at least three different fishermen. An additional 15 fish were sampled to account for scale samples which were unsuitable for aging. The fish were measured for fork length ( $\pm 1$  mm) and dressed weight ( $\pm 50$  g). Scales were taken from the left side of the fish from the area just above the lateral line and below the dorsal fin.

#### CATCH PER UNIT OF EFFORT (CPE)

Number of vessel deliveries and whitefish landings (production in kilograms round weight) by weekly intervals for each administrative area (Table 5) were calculated as described by Moshenko et al. (1978; 1981) and Moshenko and Low (1979; 1980).

Total whitefish production, estimates for total numbers of nets used and CPE (kilograms

round weight/91 m/24 h) by weekly intervals (Tables 6-12) were calculated as described by Moshenko et al. (1978; 1981) and Moshenko and Low (1979; 1980).

#### FISHERY OBSERVATIONS

Fishery observations were conducted by placing Department of Fisheries and Oceans (DFO) summer staff on board commercial fishing vessels. These DFO observers accompanied the fishermen when they left port in the morning and returned with them the same day. Fishermen were interviewed for information pertaining to number of nets set, location and duration of net-gang sets, mesh size, mesh depth, twine size, depth fished, descriptive features of the fishing vessel and size of the crew. As the nets were lifted, observers kept a record of the number of fish of each species caught and culled per net-gang (usually 5-8 nets). Observations were conducted in 1982 during June, July and August in all areas in the general vicinity of the four fish plants with an attempt to obtain information on all types of fishing vessels from each area.

#### BIOLOGICAL DATA

The scale age of whitefish was determined by counting the number of completed annuli e.g., an age 10 fish was in its eleventh year.

Annual mortality rates (natural and fishing) were calculated using the method (all ages known) outlined by Rohson and Chapman (1961). The total annual mortality is defined as the number of fish which die during a year, divided by the initial number (Ricker 1975). The right hand descending portion of a catch curve may be used to estimate annual mortality rates if the following assumptions can be met:

- i) constant survival or mortality rates over the range of age classes, and with time,
- ii) constant year class strength (even recruitment), and
- iii) all fish beyond some age are equally vulnerable to the harvesting gear.

Ricker (1975) indicated that the modal age in the catch curve will commonly lie quite close to the first year in which recruitment can be considered effectively complete. Recruitment is defined as the addition of new fish to the vulnerable population by growth among small size categories. In our calculations, we first selected the modal age class and then chose the next older age class to be sure that all fish beyond this age are at the age of effectively complete recruitment and fully susceptible to the gear.

The majority of the data collected during the study were analyzed using the computer facilities at the University of Manitoba as well as a Hewlett Packard (model 9810 A) programmable calculator.



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## REFERENCES

- BOND, W.A. 1974a. The Great Slave Lake commercial fishery, summer, 1973. Can. Fish. Mar. Serv. Data Rep. Ser. CEN/T-74-9: 38 p.
- BOND, W.A. 1974b. Data on ciscoes, burbot, and longnose suckers from Great Slave Lake, N. W. T., 1973. Can. Fish. Mar. Serv. Data Rep. Ser. CEN/D-74-3: 44 p.
- BOND, W.A. 1975a. Commercial fishery data from Great Slave Lake, N. W. T., 1974. Can. Fish. Mar. Serv. Data Rep. Ser. CEN/D-75-5: 24 p.
- BOND, W.A. 1975b. Results of an experimental gillnetting program at the west end of Great Slave Lake, N. W. T. during summer, 1974. Can. Fish. Mar. Serv. Data Rep. Serv. Tech. Rep. Ser. CEN/D-75-7: 83 p.
- BOND, W.A., and T.D. TURNBULL. 1973. Fishery investigations at Great Slave Lake, Northwest Territories 1972. Can. Fish. Mar. Serv. Tech. Rep. Ser. CEN/T-73-7: 78 p.
- GREAT SLAVE LAKE WORKING PARTY. 1969. Unpublished Report. 20 p.
- KELEHER, J.J. 1972. Great Slave Lake: effect of exploitation on salmonid community. J. Fish. Res. Board Can. 29: 741-753.
- KENNEDY, W.A. 1956. The first ten years of commercial fishing on Great Slave Lake. Bull. Fish. Res. Bd. Can. No. 107: 58 p.
- MOSHENKO, R.W., L.W. DAHLKE, and G. LOW. 1978. Data from the commercial fishery for lake whitefish, Coregonus clupeaformis (Mitchill), on Great Slave Lake, Northwest Territories, 1977. Can. Fish. Mar. Serv. Data Rep. 101: v + 30 p.
- MOSHENKO, R.W., and D.V. GILLMAN. 1978. Creel census and biological investigation on lake trout, Salvelinus namaycush (Walbaum), from Great Bear and Great Slave lakes, Northwest Territories, 1975-76. Can. Fish. Mar. Serv. Manuscr. Rep. 1440: v + 37 p.
- MOSHENKO, R.W., and G. LOW. 1978a. Lake whitefish, Coregonus clupeaformis (Mitchill), from the commercial fishery of Great Slave Lake, Northwest Territories, 1975-76. Can. Fish. Mar. Serv. Data Rep. 53: iv + 16 p.
- MOSHENKO, R.W., and G. LOW. 1978b. An experimental gillnetting program on Great Slave Lake, Northwest Territories, 1977. Can. Fish. Mar. Serv. Data Rep. 102: iv + 51 p.
- MOSHENKO, R.W., and G. LOW. 1979. Data from the commercial fishery for lake whitefish, Coregonus clupeaformis (Mitchill), on Great Slave Lake, Northwest Territories, 1978. Can. Fish. Mar. Serv. Data Rep. 139: v + 29 p.
- MOSHENKO, R.W., and G. LOW. 1980. Data from the commercial fishery for lake whitefish, Coregonus clupeaformis (Mitchill), on Great Slave Lake, Northwest Territories, 1979. Can. Data Rep. Fish. Aquat. Sci. 194: v + 29 p.
- MOSHENKO, R.W., G. LOW and C.J. READ. 1981. Data from the commercial fishery for lake whitefish, Coregonus clupeaformis (Mitchill), on Great Slave Lake, Northwest Territories, 1980. Can. Data Rep. Fish. Aquat. Sci. 305: v + 40 p.
- NORTHWEST TERRITORIES FISHERY REGULATIONS. 1982. P.C. 1974-1106, amended P.C. 1982-2625 September 22, 1982.
- RAWSON, D.S. 1950. The physical limnology of Great Slave Lake. J. Fish. Res. Board Can. 8: 1-166.
- RAWSON, D.S. 1951. Studies of fish of Great Slave Lake. J. Fish. Res. Board Can. 8: 207-240.
- RAWSON, D.S. 1953a. The standing crop of plankton in lakes. J. Fish. Res. Board Can. 10: 224-237.
- RAWSON, D.S. 1953b. The bottom fauna of Great Slave Lake. J. Fish. Res. Board Can. 10: 486-520.
- RICKER, W.E. 1975. Computations and interpretations of biological statistics of fish populations. Bull. Fish. Res. Board Can. 119: 382 p.
- ROBERGE, M.M., G. LOW, and C.J. READ. 1982. Data from the commercial fishery for lake whitefish, Coregonus clupeaformis (Mitchill), on Great Slave Lake, Northwest Territories, 1981. Can. Data Rep. Fish. Aquat. Sci. 335: iv + 21 p.
- ROBSON, D.S., and D.G. CHAPMAN. 1961. Catch curves and mortality rates. Trans. Am. Fish. Soc. 90(2): 181-189.

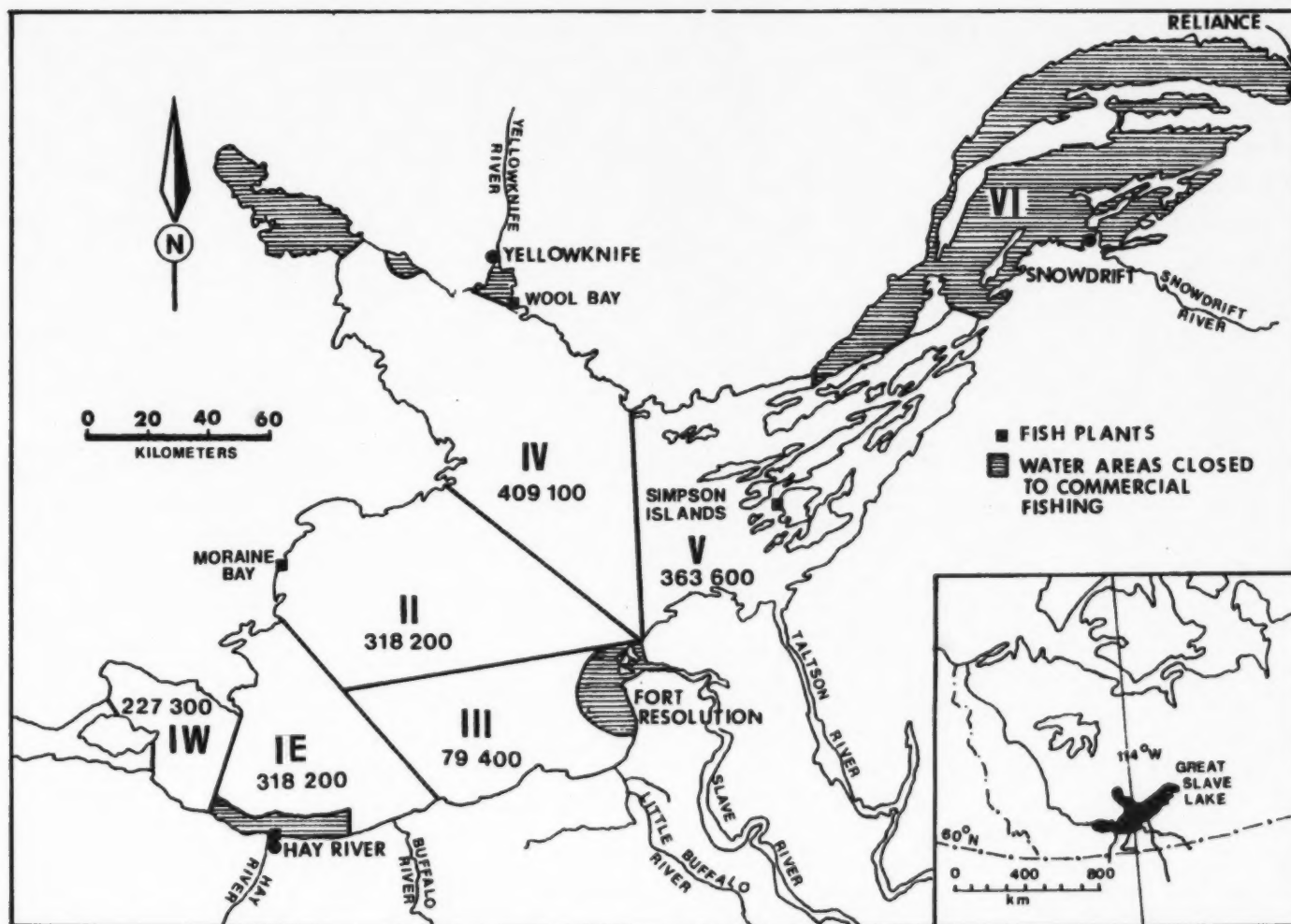


Fig. 1. Map of Great Slave Lake showing the adminstrative areas and quotas (kilograms round weight) in effect during 1982, areas closed to commercial fishing and the location of fish plants.



Table 1. Total production of commercial species (kilograms round weight) by administrative area, 1982.

Species	Production from each administrative area						Total
	IW	IE	II	III	IV	V	
Whitefish	215 977	158 585	130 070	70 863	331 660	231 454	1 138 609
Trout	765	3 225	329	Nil	234	70 226	74 779
Pike	67 381	23 645	8 955	3 032	22 759	39 754	165 526
Inconnu	1 602	5 773	182	2 013	296	13 082	22 948
Walleye	804	1 657	44	1 426	507	3 328	7 766
Total	286 529	192 885	139 580	77 334	355 456	357 844	1 409 628

Table 2. Production of whitefish and trout (kilograms round weight) from each administrative area for winter and summer seasons, 1982.

Administrative Area	Winter		Summer		Total		Combined Total	Annual Quota <sup>1</sup>
	Whitefish	Trout	Whitefish	Trout	Whitefish	Trout		
IW	159 493	286	56 484	479	215 977	765	216 742	227 300
IE	52 025	109	106 560	3 116	158 585	3 225	161 810	318 200
II	20 342	50	109 728	279	130 070	329	130 399	318 200
III	Nil	Nil	70 863	Nil	70 863	Nil	70 863	79 400
IV	42 973	Nil	288 687	234	331 660	234	331 894	409 100
V	49 975	3 156	181 479	67 070	231 454	70 226	301 680	363 600
Total	324 808	3 601	813 801	71 178	1 138 609	74 779	1 213 388	1 715 800

<sup>1</sup> November 1, 1981 - October 31, 1982.

Table 3. Winter and summer prices (¢/kg) for the commercial fish species, basis loose fresh fish, F.O.B. Hay River Plant, from Great Slave Lake, N.W.T. for 1982.

Species and Form	Winter 1981-82 <sup>1</sup>			Summer 1982 <sup>2</sup>		
	Nov. 1	Feb. 28	Mar. 14	Total	GNWT <sup>3</sup>	FFMC <sup>4</sup>
Whitefish (dressed)						
large smokers	115	159	170	89	17	72
medium smokers	126	159	181	89	17	72
jumbo (1.8 kg)	137	159	170	94	11	83
large (1.4-1.8 kg)	115	148	159	89	17.6	71.4
medium (0.8-1.4 kg)	104	148	170	88	27.5	60.5
small (0.45-0.8 kg)	104	137	159	50	11	39
Lake trout						
dressed - medium (1.8-3.6 kg)	121	121	121	89	11	78
- small (0.9-1.8 kg)	88	88	88	74	11	63
headless dressed (3.6 kg)	132	132	132	89	11	78
Pickereel						
round - large	266	266	266	NA	NA	NA
- medium	266	266	266	NA	NA	NA
- small	200	200	200	NA	NA	NA
headless dressed - large	263	330	330	199	NA	199
- medium	330	330	330	199	NA	199
- small	330	263	263	199	NA	199
Northern Pike						
head-on dressed (0.9-1.8 kg)	49	49	49	45	11	34
(1.8-4.1 kg)	78	78	78	70	11	59
headless dressed	48.5	48.5	48.5	45	11	34
Inconnu						
headless dressed	113.5	113.5	113.5	110	NA	110

<sup>1</sup> 25% of the price was deducted for fish delivered frozen.

<sup>2</sup> A freight charge of 6.6¢/kg was deducted for fish delivered to the Moraine Bay, Wool Bay and Simpson Islands fish stations.

<sup>3</sup> Government of the Northwest Territories - additional subsidy prices in summer 1982 as listed.

<sup>4</sup> Freshwater Fish Marketing Corporation prices.

NA = Not applicable.

Note: In addition, final payments were provided to and received by fishermen on 1 January, 1983 for the fish produced during the 1982 season (1 November, 1981-31 October, 1982) as follows: whitefish (medium)-2.2¢/kg; pickerel (round)-18.7¢/kg; pickerel (headless dressed)-27.2¢/kg; northern pike-15.3¢/kg; and inconnu (headless dressed)-68.3¢/kg.

Table 4. Information on vehicle and vessel observations, number of men and number of nets used in the Great Slave Lake commercial fishery, winter 1981-82 and summer 1982.

WINTER FISHERY<sup>1</sup> (November - May)

License Class <sup>2</sup>	No. Licenses Approved	No. Licenses Issued	No. of Vehicles Producing	Total No. Men	No. Men Per Vehicle	No. Nets Per Vehicle
A	32	22	12	39	3.2	30
B	30	13	13	19	1.5	15
Total	62	35	25	58		

SUMMER FISHERY (June - October)

License Class <sup>3</sup>	No. Licenses Approved <sup>1</sup>	No. Licenses Issued <sup>1</sup>	No. of Vehicles Producing <sup>1</sup>	Total No. Men <sup>4</sup>	No. Men Per Vehicle <sup>4</sup>	No. Nets Per Vehicle <sup>4</sup>
A	28	22	19	82	4.3	33.9
B	80	56	31	71	2.3	16.3
Total	108	78	50	153		

<sup>1</sup> Information obtained from Field Services records, Hay River.

<sup>2</sup> License class A includes bombadiers; license class B includes skidoos.

<sup>3</sup> License class A includes whitefish boats and bowpickers; license class B includes skiffs.

<sup>4</sup> Information based on the 1982 fishery observation records.

Table 5 . Number of vessel deliveries and whitefish landings (production in kilograms round weight) by weekly intervals for each administrative area, June to October, 1982.

Week	June				July				August				September				October				Total	
	6	13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	3	10	17	24	
Area IE	-	-	-	2	7	13	18	15	11	9	12	11	12	3	7	8	3	4	6	4	2	147
Class A	8	9	11	8	12	-	7	7	8	12	6	6	4	2	6	14	6	5	3	8	2	144
Class B	8	9	11	8	12	-	7	7	8	12	6	6	4	2	6	14	6	5	3	8	2	144
Production	249	501	467	305	10 330	19 932	11 969	5 483	4 830	6 911	5 674	6 746	4 612	599	2 027	3 123	2 728	4 363	1 994	10 417	3 227	106 560
Area IW	-	-	-	7	13	16	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41
Class A	-	-	-	7	13	16	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41
Class B	-	-	10	13	34	23	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83
Production	-	-	2 966	9 081	27 495	12 404	4 538	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56 484
Area II	-	-	-	-	-	-	-	2	14	23	17	18	11	14	5	8	3	-	-	-	-	115
Class A	-	-	-	-	-	-	-	2	14	23	17	18	11	14	5	8	3	-	-	-	-	115
Class B	-	-	-	-	-	-	-	-	3	9	5	3	3	5	-	1	-	-	-	-	-	29
Production	-	-	-	-	-	-	-	2 366	8 348	23 462	14 572	16 562	10 290	12 655	8 092	10 718	2 663	-	-	-	-	109 728
Area III	-	-	-	-	-	-	4	4	3	3	4	5	2	3	4	5	1	2	2	1	3	46
Class A	-	-	-	-	-	-	-	4	3	3	4	5	2	3	4	5	1	2	2	1	3	46
Class B	-	-	-	-	-	-	-	3	7	4	4	3	2	1	5	4	2	4	3	6	6	54
Production	-	-	-	-	-	-	3 065	3 854	7 679	7 846	15 805	4 902	2 289	2 128	6 102	5 168	2 489	2 361	3 339	1 839	1 997	70 863
Area IV	-	-	-	-	-	-	16	4	25	46	25	19	19	22	25	39	13	12	-	-	-	265
Class A	-	-	-	-	-	-	16	4	25	46	25	19	19	22	25	39	13	12	-	-	-	265
Class B	-	-	-	-	-	-	3	1	8	14	9	9	8	7	5	17	4	7	-	-	7	99
Production	-	-	-	-	-	-	17 641	4 469	15 924	26 616	18 060	15 291	6 083	45 605	42 952	58 307	15 226	21 183	-	-	1 330	288 687
Area V	-	-	-	-	-	-	4	10	20	21	20	22	16	20	21	23	21	19	-	-	-	217
Class A	-	-	-	-	-	-	4	10	20	21	20	22	16	20	21	23	21	19	-	-	-	217
Class B	-	-	-	-	-	-	3	9	19	20	22	19	17	20	18	37	17	10	-	-	-	211
Production	-	-	-	-	-	-	2 353	4 581	13 972	18 475	16 269	15 436	11 349	15 002	18 467	28 577	18 820	18 178	-	-	-	181 479
All areas	-	-	-	9	20	29	47	35	73	102	78	75	60	62	62	83	41	37	8	5	5	181 479
Class A	-	-	-	9	20	29	47	35	73	102	78	75	60	62	62	83	41	37	8	5	5	831
Class B	8	9	21	21	46	23	16	20	45	59	46	40	34	35	34	73	29	26	6	14	15	620
Production	249	501	3 433	9 386	37 825	32 336	39 566	20 753	50 753	83 383	70 380	58 937	34 623	75 989	77 640	105 893	41 926	46 085	5 333	12 256	6 554	813 801

Table 6. Total whitefish production, estimates for total number of nets used and CPE by weekly intervals for all areas.

Week ending	Production (kg round wt)	No. of nets used <sup>1</sup>	CPE (kg/91m/24h) <sup>2</sup>
June 6	249	128	1.9
13	501	144	3.5
20	3 433	336	10.2
27	<u>9 386</u>	<u>1 011</u>	<u>9.3</u>
Total	13 569	1 619	8.4
July 4	37 825	2 236	16.9
11	32 336	2 543	12.7
18	39 566	3 781	10.5
25	<u>20 753</u>	<u>2 945</u>	<u>7.0</u>
Total	130 480	11 505	11.3
August 1	50 753	6 195	8.2
8	83 383	8 594	9.7
15	70 380	6 586	10.7
22	58 937	6 265	9.4
29	<u>34 623</u>	<u>5 044</u>	<u>6.9</u>
Total	298 076	32 684	9.1
September 5	75 989	5 210	14.6
12	77 640	5 194	14.9
19	105 893	7 393	14.3
26	<u>41 926</u>	<u>3 539</u>	<u>11.8</u>
Total	301 448	21 336	14.1
October 3	46 085	3 191	14.4
10	5 333	696	7.7
17	12 256	599	20.5
24	<u>6 554</u>	<u>615</u>	<u>10.7</u>
Total	70 228	5 101	13.8
Season Total	813 801	72 245	11.3

<sup>1</sup> Calculation described by Moshenko et al. (1981).

<sup>2</sup> Round weight.

Table 7. Total whitefish production, estimates for total number of nets used and CPE by weekly intervals for Area 1E.

Week ending	Production (kg round wt)	No. of nets used <sup>1</sup>	CPE (kg/91m/24h) <sup>2</sup>
June 6	249	128	1.9
13	501	144	3.5
20	467	176	2.7
27	<u>305</u>	<u>278</u>	<u>1.1</u>
Total	1 522	726	2.1
July 4	10 330	717	14.4
11	19 932	975	20.4
18	11 969	1 462	8.2
25	<u>5 483</u>	<u>1 237</u>	<u>4.4</u>
Total	47 714	4 391	10.9
August 1	4 830	953	5.1
8	6 984	817	8.5
15	5 674	996	5.7
22	6 746	921	7.3
29	<u>4 612</u>	<u>964</u>	<u>4.8</u>
Total	28 846	4 651	6.2
September 5	599	257	2.3
12	2 027	621	3.3
19	3 123	824	3.8
26	<u>2 728</u>	<u>321</u>	<u>8.5</u>
Total	8 477	2 023	4.2
October 3	4 363	380	11.5
10	1 994	498	4.0
17	10 417	428	24.3
24	<u>3 227</u>	<u>182</u>	<u>17.7</u>
Total	20 001	1 488	13.4
Season Total	106 560	13 279	8.0

<sup>1</sup> Calculation described by Moshenko et al. (1981).

<sup>2</sup> Round Weight.

Table 8. Total whitefish production, estimates for total number of nets used and CPE by weekly intervals for Area 1W.

Week ending	Production (kg round wt)	No. of nets used <sup>1</sup>	CPE (kg/91m/24h) <sup>2</sup>
June 20	2 966	160	18.5
27	<u>9 081</u>	<u>733</u>	<u>12.4</u>
Total	12 047	893	13.5
July 4	27 495	1 519	18.1
11	12 404	1 568	7.9
18	<u>4 538</u>	<u>423</u>	<u>10.7</u>
Total	44 437	3 510	12.7
Season Total	56 484	4 403	12.8

<sup>1</sup> Calculation described by Moshenko et al. (1981).

<sup>2</sup> Round weight.



Table 9. Total whitefish production, estimates for total number of nets used and CPE by weekly intervals for Area II.

Week ending	Production (kg round wt)	No. of nets used <sup>1</sup>	CPE (kg/91m/24h) <sup>2</sup>
July 25	<u>2 366</u>	<u>150</u>	<u>15.8</u>
Total	2 366	150	15.8
August 1	8 348	1 098	7.6
8	23 462	1 869	12.6
15	14 572	1 355	10.8
22	16 562	1 398	11.8
29	<u>10 290</u>	<u>873</u>	<u>11.8</u>
Total	73 234	6 593	11.1
September 5	12 655	1 105	11.5
12	8 092	375	21.6
19	10 718	616	17.4
26	<u>2 663</u>	<u>225</u>	<u>11.8</u>
Total	34 128	2 321	14.7
Season Total	109 728	9 064	12.1

<sup>1</sup> Calculation described by Moshenko et al. (1981).

<sup>2</sup> Round weight.

Table 10. Total whitefish production, estimates for total number of nets used and CPE by weekly intervals for Area III.

Week ending	Production (kg round wt)	No. of nets used <sup>1</sup>	CPE (kg/91m/24h) <sup>2</sup>
July 18	3 065	300	10.2
25	<u>3 854</u>	<u>348</u>	<u>11.1</u>
Total	6 919	648	10.7
August 1	7 679	337	22.8
8	7 846	289	27.1
15	15 805	364	43.4
22	4 902	600	8.2
29	<u>2 289</u>	<u>182</u>	<u>12.6</u>
Total	38 521	1 772	21.7
September 5	2 128	241	8.8
12	6 102	380	16.1
19	5 168	439	11.8
26	<u>2 489</u>	<u>102</u>	<u>24.4</u>
Total	15 887	1 162	13.7
October 3	2 361	214	11.0
10	3 339	375	8.9
17	1 839	171	10.8
24	<u>1 997</u>	<u>321</u>	<u>6.2</u>
Total	9 536	1 081	8.8
Season Total	70 863	4 663	15.2

<sup>1</sup> Calculation described by Moshenko et al. 1981.

<sup>2</sup> Round weight.

Table 11. Total whitefish production, estimates for total number of nets used and CPE by weekly intervals for Area IV.

Week ending	Production (kg round wt)	No. of nets used <sup>1</sup>	CPE (kg/91m/24h) <sup>2</sup>
July 18	17 641	1 248	14.1
25	<u>4 469</u>	<u>316</u>	<u>14.1</u>
Total	22 110	1 564	14.1
August 1	15 924	2 003	8.0
8	26 616	3 674	7.2
15	18 060	2 019	8.9
22	15 291	1 569	9.7
29	<u>6 083</u>	<u>1 603</u>	<u>3.8</u>
Total	81 974	10 868	7.5
September 5	45 605	1 762	25.9
12	42 952	1 955	22.0
19	58 307	3 197	18.2
26	<u>15 226</u>	<u>1 039</u>	<u>14.7</u>
Total	162 090	7 953	20.4
October 3	21 183	1 012	20.9
10	-	-	-
17	-	-	-
24	<u>1 330</u>	<u>112</u>	<u>11.9</u>
Total	22 513	1 124	20.0
Season Total	288 687	21 509	13.4

<sup>1</sup> Calculation described by Moshenko et al. (1981).

<sup>2</sup> Round weight.

Table 12. Total whitefish production, estimates for total number of nets used and CPE by weekly intervals for Area V.

Week ending	Production (kg round wt)	No. of nets used <sup>1</sup>	CPE (kg/91m/24h) <sup>2</sup>
July 18	2 353	348	6.8
25	<u>4 581</u>	<u>894</u>	<u>5.1</u>
Total	6 934	1 242	5.6
August 1	13 972	1 804	7.7
8	18 475	1 895	9.7
15	16 269	1 852	8.8
22	15 436	1 954	7.9
29	<u>11 349</u>	<u>1 472</u>	<u>7.7</u>
Total	75 501	8 977	8.4
September 5	15 002	1 820	8.2
12	18 467	1 863	9.9
19	28 577	2 317	12.3
26	<u>18 820</u>	<u>1 847</u>	<u>10.2</u>
Total	80 866	7 847	10.3
October 3	<u>18 178</u>	<u>1 585</u>	<u>11.5</u>
Total	18 178	1 585	11.5
Season Total	181 479	19 651	9.2

<sup>1</sup> Calculation described by Moshenko et al. (1981).

<sup>2</sup> Round weight.

Table 13. Percent cullage of lake whitefish by nights nets down for each administrative area and vessel class from fishery observations on Great Slave Lake, summer 1982.

Area	Vessel Class	No. of Observations	No. Nights Nets Down	No. Nets Used	Whitefish Caught		
					Total	No. Culled	% Culled
IW	A	2	1	96	1 469	12	0.8
		1	2	30	771	17	2.2
		1	3	39	741	75	10.1
	B	4	1	85	688	16	3.5
IE	A	1	3	35	590	32	5.4
		1	5	8	233	155	66.5
II	A	3	1	51	1 297	18	1.4
		6	2	196	3 067	58	1.9
		2	3	60	928	33	3.6
	B	4	2	56	589	14	2.4
III	B	4	1	59	880	53	6.0
IV	A	1	1	24	648	38	5.9
		3	2	79	1 694	57	3.4
		1	4	18	470	3	0.6
V	A	1	2	42	435	3	0.7
		1	3	33	716	22	3.1
	B	3	1	45	308	10	3.2
Total	A	24	52	711	13 059	522	4.0
	B	15	19	245	2 465	93	3.8
	A&B	39	71	956	15 524	615	4.0

Table 14. Summary information on vessel class and gillnets used during the summer commercial fishery from fishery observations on Great Slave Lake, N.W.T. for 1982.

Area	Class A Vessel			Class B Vessel		
	No. of Observations	No. nets used	No. fishing days	No. of Observations	No. nets used	No. fishing days
IW	4	165	7	4	85	4
IE	2	43	8	-	-	-
II	8	307	21	4	56	8
III	-	-	-	4	59	4
IV	5	121	11	-	-	-
V	2	75	5	3	45	3
Total	21	711	52	15	245	19
Mean no. nets/boat		33.9			16.3	
Mean no. nets lifted/day		28.4			15.8	
Mean no. net gangs lifted/day		4.2			4.8	
Depth of net (meshes)		30-80			24-60	
Mean no. men/boat		4.3			2.3	
% 139 mm nets used		4.9			0.0	

Table 15. Species composition and catch per unit effort (CPE) for each administrative area from fishery observations, summer 1982.

	Area IW				Area IE				Area II				Area III				Area IV				Area V				Total			
Meters of net	32 578				11 557				66 885				5 369				20 930				20 748				158 067			
Species	Fish Caught				Fish Caught				Fish Caught				Fish Caught				Fish Caught				Fish Caught				Fish Caught			
	No.	% of total	No. <sup>1</sup>	Wt. <sup>2</sup>	No.	% of total	No. <sup>1</sup>	Wt. <sup>2</sup>	No.	% of total	No. <sup>1</sup>	Wt. <sup>2</sup>	No.	% of total	No. <sup>1</sup>	Wt. <sup>2</sup>	No.	% of total	No. <sup>1</sup>	Wt. <sup>2</sup>	No.	% of total	No. <sup>1</sup>	Wt. <sup>2</sup>	No.	% of total	No. <sup>1</sup>	Wt. <sup>2</sup>
Lake whitefish <sup>3</sup>	3 669	68.6	10.2	13.1	823	40.0	6.5	7.5	5 881	73.9	8.0	8.3	880	48.0	14.9	21.8	2 812	71.7	12.2	13.1	1 459	49.0	6.4	7.2	15 524	62.6	8.9	10.4
Lake trout	2	<0.1	<0.1		43	2.1	0.3		3	<0.1	<0.1										199	6.7	0.9		247	1.0	0.1	
Walleye	1	<0.1	<0.1		-	-	-	-					1	<0.1	<0.1		31	0.8	0.1		5	<0.1	<0.1		38	0.2	<0.1	
Northern pike	664	12.4	1.9	-	-	-	-	-	113	1.4	0.2	-					183	4.7	0.8	-	46	1.5	0.2	-	1 006	4.1	0.6	-
Inconnu	10	0.2	<0.1		25	<0.1	0.2		1	<0.1	<0.1		5	<0.1	<0.1		3	<0.1	<0.1		28	0.9	0.1	-	72	0.3	<0.1	-
Cisco	9	0.2	<0.1		82	<0.1	0.6	0.4	818	10.3	1.1	0.7	271	14.8	4.6	3.1	384	9.8	1.7	1.1	763	25.6	3.4	2.2	2 327	9.4	1.3	0.9
Longnose sucker	743	13.9	2.1	2.9	948	46.1	7.5	10.5	83	1.0	0.1	0.2	345	18.8	5.8	8.2	188	4.8	0.8	1.2	323	10.8	1.4	2.0	2 630	10.6	1.5	2.1
White sucker	4	<0.1	<0.1		-	-	-	-	2	<0.1	<0.1		1	<0.1	<0.1										7	<0.1	<0.1	
Burbot	244	4.6	0.7	1.3	135	6.6	1.1	2.0	1 055	13.3	1.4	1.0	330	5.6	5.6	10.6	320	8.2	1.4	2.6	156	5.2	0.7	1.3	2 240	9.0	1.3	2.5
Arctic grayling	2	<0.1	<0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	<0.1	<0.1	
Total	5 348	14.9	-	2 056	16.2	-	7 956	10.7	-	1 833	30.9	-	3 921	17.0	-	2 979	13.1	-	24 793	14.3	-	-	-	-	-	-	-	

<sup>1</sup> Number of fish/91 m of net/24 hour period.<sup>2</sup> Round weight of fish (kg)/91 m of net/24 hour period.<sup>3</sup> Mean round weight converted from dressed weight of 1982 plant samples.

Table 16. Weight composition by market weight intervals for lake whitefish from commercial plant samples on Great Slave Lake, 1982.

Market Weight Interval (Dressed)	Area IE		Area IW		Area II		Area III		Area IV		Area V		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No Market (0-1 lb., 0-454 g.)	1	<1	-	-	1	<1	-	-	2	<1	-	-	4	<1
Small (1-1.5 lb., 682-1 362 g)	24	3	13	3	35	8	1	<1	49	6	19	3	141	4
Medium (1.5-3 lb., 1 363-1 816 g)	767	91	346	81	376	90	293	70	778	93	592	94	3 152	88
Large (3-4 lb., 1 363-1 816 g)	49	6	55	13	5	1	104	25	8	<1	14	2	235	7
Jumbo (>4 lb., >1 816 g)	2	<1	11	3	1	<1	21	5	1	<1	2	<1	38	1
Total	843		425		418		419		838		627		3 570	

Table 17. Age composition of commercial whitefish for all areas combined from Great Slave Lake commercial fishery, 1982.

AGE (YR)	NO.	%	FORK LENGTH(MM)		DRESSED WEIGHT (G)	
			MEAN	SD.	MEAN	SD.
5	1	-	322	-	450	-
6	16	0.5	379	23.0	694	110.9
7	103	3.1	380	23.0	734	133.1
8	174	5.2	388	22.3	784	136.4
9	353	10.5	400	23.8	855	160.9
10	481	14.3	407	23.1	915	162.1
11	742	22.1	417	24.8	984	194.5
12	787	23.4	426	27.0	1055	222.3
13	457	13.6	434	28.6	1126	251.4
14	143	4.3	442	33.4	1187	310.2
15	73	2.2	459	43.8	1327	495.3
16	18	0.5	465	34.2	1422	427.8
17	7	0.2	491	26.6	1543	292.2
18	3	-	447	8.7	1150	0.0
19	1	-	550	-	2100	-
20	1	-	532	-	2300	-
TOTAL	3360					
MEAN			418	1.4	997	254.0
MEAN AGE	12.5					



Table 18. Age composition of commercial whitefish for each seasonal period from area IW, 1982.

AGE (YR)	WINTER			SPRING			SUMMER			FALL			TOTAL						
	MEAN		DR.	MEAN		DR.	MEAN		DR.	MEAN		DR.	FORK		DRESSED				
	LEN.	WT.		LEN.	WT.		LEN.	WT.		LEN.	WT.		NO.	MEAN		SD.	MEAN	SD.	
			NO.			(MM)			(G)			NO.			(MM)				(G)
6	-	-	-	2	414	875	-	-	-	-	-	-	2	414	8.5	875	35.4		
7	8	383	725	4	407	875	-	-	-	-	-	-	12	391	25.1	775	187.7		
8	15	385	750	11	412	927	-	-	-	-	-	-	26	396	24.8	825	177.3		
9	26	391	800	20	433	1093	-	-	-	-	-	-	46	409	31.0	927	236.6		
10	34	400	866	19	439	1138	-	-	-	-	-	-	53	414	28.1	964	205.4		
11	33	410	912	26	441	1123	-	-	-	-	-	-	59	423	32.1	1005	247.5		
12	55	419	965	39	460	1282	-	-	-	-	-	-	94	436	33.4	1096	271.4		
13	20	428	980	40	465	1351	-	-	-	-	-	-	60	453	35.9	1227	322.0		
14	8	459	1213	10	481	1508	-	-	-	-	-	-	18	471	28.5	1377	329.5		
15	1	440	1000	8	524	1750	-	-	-	-	-	-	9	515	42.6	1667	391.3		
16	1	448	1100	4	486	1575	-	-	-	-	-	-	5	479	30.2	1480	286.4		
17	-	-	-	5	503	1690	-	-	-	-	-	-	5	503	20.6	1690	134.2		
19	-	-	-	1	550	2100	-	-	-	-	-	-	1	550	-	2100	-		
TOTAL	201			189			-	-	-	-	-	-	390						
MEAN		409	905		455	1260	-	-	-	-	-	-		432	40.8	1077	323.0		
MEAN AGE	10.8			11.6			-	-	-	-	-	-	11.2						

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Table 15. Age composition of commercial whitefish for each seasonal period from area IE, 1982.

AGE (YR)	WINTER			SPRING			SUMMER			FALL			TOTAL				
	NO.	MEAN	MEAN	NO.	MEAN	MEAN	NO.	MEAN	MEAN	NO.	MEAN	MEAN	FORK		DRESSED		
		FORK	DR.		FORK	DR.		FORK	DR.		FORK	DR.	LENGTH(MM)	WEIGHT(G)			
		LEN.	WT.		LEN.	WT.		LEN.	WT.		LEN.	WT.	MEAN	SD.	MEAN	SD.	
6	2	358	575	-	-	-	-	-	-	-	-	-	2	358	21.2	575	35.4
7	5	388	780	2	362	650	1	387	800	1	382	700	9	381	14.6	744	95.0
8	7	388	764	5	354	630	2	380	725	4	377	675	18	375	22.2	703	113.1
9	25	390	768	19	379	795	24	411	888	28	405	868	96	397	21.7	832	134.0
10	38	405	861	22	399	886	28	412	918	49	421	986	137	411	21.4	921	154.6
11	46	407	869	52	408	948	45	434	1077	65	429	1050	208	420	22.6	990	176.9
12	51	418	943	49	412	993	59	443	1131	39	436	1132	198	428	24.9	1048	196.9
13	22	422	968	29	425	1126	26	447	1208	10	457	1305	87	435	26.1	1131	218.0
14	5	423	960	6	428	1142	12	454	1208	1	472	1500	24	442	26.4	1152	214.4
15	-	-	-	5	472	1620	4	466	1288	-	-	-	9	469	24.6	1472	333.6
16	-	-	-	-	-	-	-	-	-	2	477	1450	2	477	4.9	1450	70.7
17	-	-	-	-	-	-	1	466	1350	-	-	-	1	466	-	1350	-
TOTAL	201			189			202			199			791				
MEAN		407	878		408	977		434	1073		426	1034		419	27.8	991	214.9
MEAN AGE	10.9			11.3			11.4			10.8			11.1				

Table 20. Age composition of commercial whitefish for each seasonal period from area II, 1982.

AGE (YR)	WINTER			SPRING			SUMMER			FALL			TOTAL					
	MEAN		MEAN	MEAN		MEAN	MEAN		MEAN	MEAN		FORK		DRESSED				
	FORK		DR.	FORK		DR.	FORK		DR.	FORK		DR.	LENGTH(MM)		WEIGHT(G)			
	LEN.		WT.	LEN.		WT.	LEN.		WT.	LEN.		WT.	LEN.		WEIGHT(G)			
	NO.	(MM)	(G)	NO.	(MM)	(G)	NO.	(MM)	(G)	NO.	(MM)	(G)	NO.	MEAN	SD.	MEAN	SD.	
5	-	-	-	-	-	-	-	-	1	322	450	1	322	-	-	450	-	
6	-	-	-	-	-	-	-	-	5	370	640	7	372	18.3	-	671	107.5	
7	-	-	-	-	-	-	-	-	25	377	730	33	372	691	-	708	109.9	
8	-	-	-	-	-	-	-	-	20	388	785	37	388	793	-	790	102.4	
9	-	-	-	-	-	-	-	-	42	402	847	46	402	834	-	840	119.7	
10	-	-	-	-	-	-	-	-	34	418	931	31	402	856	-	895	112.4	
11	-	-	-	-	-	-	-	-	33	426	995	24	423	973	-	986	125.3	
12	-	-	-	-	-	-	-	-	27	443	1117	16	429	1016	-	1079	145.7	
13	-	-	-	-	-	-	-	-	12	438	1117	9	440	1100	-	1110	182.8	
14	-	-	-	-	-	-	-	-	3	448	1033	-	-	-	-	1033	175.6	
15	-	-	-	-	-	-	-	-	-	-	-	3	454	1167	-	1167	275.4	
18	-	-	-	-	-	-	-	-	1	445	1150	-	-	-	-	1150	-	
20	-	-	-	-	-	-	-	-	-	-	-	1	532	2300	-	2300	-	
TOTAL	-	-	-	-	-	-	199	-	-	206	-	-	405	-	-	-	-	
MEAN	-	-	-	-	-	-	413	921	-	401	854	-	407	29.6	-	887	190.8	
MEAN AGE	-	-	-	-	-	-	9.9	-	-	9.3	-	-	9.6	-	-	-	-	

Table 21. Age composition of commercial whitefish for each seasonal period from area III, 1982.

AGE (YR)	WINTER			SPRING			SUMMER			FALL			TOTAL				
	MEAN	MEAN		MEAN	MEAN		MEAN	MEAN		MEAN	MEAN		FORK		DRESSED		
	FORK	DR.		FORK	DR.		FORK	DR.		FORK	DR.		LENGTH(MM)		WEIGHT(G)		
	LEN.	WT.		LEN.	WT.		LEN.	WT.		LEN.	WT.		SD.		SD.		
	NO.	(MM)	(G)	NO.	(MM)	(G)	NO.	(MM)	(G)	NO.	(MM)	(G)	NO.	MEAN	SD.	MEAN	SD.
8	-	-	-	-	-	-	5	395	810	2	398	850	7	396	19.4	821	115.0
9	-	-	-	-	-	-	9	413	989	9	406	917	18	409	24.0	953	175.3
10	-	-	-	-	-	-	28	418	1050	15	434	1110	43	424	25.2	1071	213.0
11	-	-	-	-	-	-	68	433	1170	40	447	1233	108	439	26.5	1193	238.3
12	-	-	-	-	-	-	57	436	1219	64	453	1293	121	445	27.3	1258	260.2
13	-	-	-	-	-	-	25	436	1238	44	462	1426	69	452	32.5	1358	308.3
14	-	-	-	-	-	-	3	460	1450	15	483	1663	18	479	31.4	1628	322.8
15	-	-	-	-	-	-	1	501	1500	3	544	2833	4	533	22.8	2500	696.4
16	-	-	-	-	-	-	-	-	-	1	518	2300	1	518	-	2300	-
TOTAL	-	-	-	-	-	-	196	-	-	193	-	-	389	-	-	-	-
MEAN	-	-	-	-	-	-	431	1164	-	454	1332	-	442	32.7	-	1248	328.0
MEAN AGE	-	-	-	-	-	-	11.3	-	-	11.9	-	-	11.6	-	-	-	-

Table 22. Age composition of commercial whitefish for each seasonal period from area IV, 1982.

AGE (YR)	WINTER			SPRING			SUMMER			FALL			TOTAL			
	MEAN		DR. WT. (G)	MEAN		DR. WT. (G)	MEAN		DR. WT. (G)	MEAN		DR. WT. (G)	NO.	FORK LENGTH(MM)		DRESSED WEIGHT(G)
	NO.	(MM)		NO.	(MM)		NO.	(MM)		NO.	(MM)			MEAN	SD.	
7	3	348	567	-	-	-	-	-	-	-	-	-	7	352	16.2	593 83.8
8	14	364	675	-	-	-	8	385	781	4	384	775	32	373	19.0	713 115.0
9	29	378	728	-	-	-	11	413	950	12	394	917	70	388	21.4	808 142.6
10	27	377	759	-	-	-	31	406	897	37	406	968	141	396	19.8	867 128.1
11	44	395	847	-	-	-	57	404	899	51	404	959	224	402	15.6	899 117.4
12	48	404	920	-	-	-	62	415	961	58	417	1073	206	410	18.3	972 154.7
13	29	410	1017	-	-	-	26	428	1063	25	418	1084	91	419	16.2	1048 128.6
14	5	407	1030	-	-	-	6	423	1033	6	432	1308	18	421	18.4	1128 173.4
15	2	472	1525	-	-	-	2	440	1275	-	-	-	5	457	32.7	1400 326.0
16	1	465	1150	-	-	-	1	453	1550	1	446	1200	3	455	9.6	1300 217.9
TOTAL	202			-	-	-	204			194			797			
MEAN		393	856	-	-	-		412	948		410	1016		403	22.1	921 168.3
MEAN AGE	11.0			-	-	-	11.3			11.3			11.1			

Table 23. Age composition of commercial whitefish for each seasonal period from area V, 1982.

AGE (YR)	WINTER			SPRING			SUMMER			FALL			TOTAL			
	MEAN		DR. WT. (G)	MEAN		DR. WT. (G)	MEAN		DR. WT. (G)	MEAN		DR. WT. (G)	NO.	FORK LENGTH(MM)		DRESSED WEIGHT(G)
	NO.	(MM)		NO.	(MM)		NO.	(MM)		NO.	(MM)			MEAN	SD.	
6	3	370	683	-	-	-	1	415	800	1	385	650	5	382	20.4	700 61.2
7	7	393	821	-	-	-	6	411	892	4	399	825	17	401	20.1	847 111.1
8	16	394	813	-	-	-	9	405	861	9	409	878	34	401	21.4	843 144.1
9	20	400	865	-	-	-	5	424	1000	10	416	930	35	408	25.2	903 171.5
10	13	399	842	-	-	-	19	407	895	10	403	815	42	403	16.6	860 111.1
11	24	405	871	-	-	-	29	415	934	33	412	914	86	411	18.8	909 115.1
12	37	414	946	-	-	-	49	421	991	39	417	956	125	418	20.8	967 151.3
13	38	418	988	-	-	-	43	430	1049	48	423	993	129	424	21.0	1010 162.6
14	26	414	933	-	-	-	12	457	1275	24	429	1042	62	428	26.6	1041 214.0
15	7	415	936	-	-	-	22	455	1268	14	426	979	43	439	31.8	1120 339.3
16	3	425	1067	-	-	-	2	497	1850	2	440	1100	7	450	41.1	1300 539.3
17	-	-	-	-	-	-	1	457	1000	-	-	-	1	457	-	1000 -
18	-	-	-	-	-	-	2	449	1150	-	-	-	2	449	12.0	1150 0.0
TOTAL	194			-	-	-	200			194			588			
MEAN		408	910	-	-	-		427	1034		418	955		418	25.1	967 200.5
MEAN AGE	11.5			-	-	-	12.0			12.0			11.8			

Table 24. Length composition of commercial whitefish for all areas combined from Great Slave Lake commercial fishery, 1982.

LENGTH INTERVAL (MM)	NO.	%	FORK LENGTH(MM)		DRESSED WEIGHT (G)	
			MEAN	SD.	MEAN	SD.
310-319	1	-	315	-	450	-
320-329	3	-	324	2.9	467	28.9
330-339	8	0.2	335	2.9	538	112.6
340-349	21	0.6	344	2.6	557	71.2
350-359	27	0.8	354	2.6	615	69.1
360-369	85	2.4	365	2.8	670	65.6
370-379	144	4.0	375	2.8	723	72.9
380-389	274	7.7	384	2.9	783	74.9
390-399	423	11.8	394	2.9	833	72.9
400-409	528	14.8	404	2.9	896	79.9
410-419	510	14.3	414	2.9	963	94.7
420-429	460	12.9	424	2.8	1011	101.4
430-439	326	9.1	434	2.8	1077	109.0
440-449	234	6.6	444	2.8	1155	117.2
450-459	164	4.6	454	3.0	1240	143.5
460-469	131	3.7	464	2.9	1351	151.4
470-479	74	2.1	474	3.0	1427	147.1
480-489	58	1.6	484	2.8	1538	145.8
490-499	33	0.9	494	2.6	1602	198.2
500-509	26	0.7	504	3.4	1688	216.5
510-519	8	0.2	514	2.8	1881	263.1
520-529	12	0.3	523	2.9	1863	226.8
530-539	10	0.3	534	3.7	2145	424.6
540-549	6	0.2	544	3.9	2050	44.7
550-559	3	-	555	4.5	2617	453.7
570-579	1	-	578	-	2200	-
<hr/>						
TOTAL	3570					
MEAN			418	31.9	999	256.0

Table 25. Length composition of commercial whitefish for each seasonal period from area IW, 1982.

LENGTH INTERVAL (MM)	WINTER			SPRING			SUMMER			FALL			TOTAL					
	NO.	MEAN	MEAN	NO.	MEAN	MEAN	NO.	MEAN	MEAN	NO.	MEAN	FORK		DRESSED				
		FORK	DR.		FORK	DR.		FORK	DR.		LEN.	WT.	LEN.	WT.	MEAN	SD.	MEAN	SD.
		LEN.	WT.		LEN.	WT.		LEN.	WT.		LEN.	WT.						
(MM)	(MM)	(G)	(MM)	(G)	(G)	(MM)	(G)	(G)	(MM)	(G)	NO.	MEAN	SD.	MEAN	SD.			
330-339	1	335	450	-	-	-	-	-	-	-	-	1	335	-	450	-		
340-349	3	346	500	-	-	-	-	-	-	-	-	3	346	2.5	500	50.0		
350-359	1	352	600	-	-	-	-	-	-	-	-	1	352	-	600	-		
360-369	5	364	630	1	368	650	-	-	-	-	-	6	365	3.1	633	121.1		
370-379	11	375	709	-	-	-	-	-	-	-	-	11	375	2.9	709	49.1		
380-389	20	384	768	4	384	750	-	-	-	-	-	24	384	2.9	765	58.0		
390-399	35	395	816	6	395	792	-	-	-	-	-	41	395	3.0	812	54.5		
400-409	36	404	875	7	406	893	-	-	-	-	-	43	404	2.7	878	76.6		
410-419	32	415	933	19	413	979	-	-	-	-	-	51	414	2.9	950	75.5		
420-429	25	423	988	19	424	1016	-	-	-	-	-	44	424	2.9	1000	90.9		
430-439	15	434	1030	19	433	1038	-	-	-	-	-	34	434	2.8	1034	82.9		
440-449	15	443	1113	19	443	1137	-	-	-	-	-	34	443	2.9	1126	107.9		
450-459	8	453	1206	23	453	1179	-	-	-	-	-	31	453	3.1	1186	131.4		
460-469	1	463	1300	22	464	1309	-	-	-	-	-	23	464	3.4	1309	190.7		
470-479	5	473	1300	8	474	1396	-	-	-	-	-	13	474	3.0	1359	171.1		
480-489	2	483	1375	13	484	1515	-	-	-	-	-	15	484	3.4	1497	131.6		
490-499	-	-	-	12	494	1546	-	-	-	-	-	12	494	2.9	1546	164.4		
500-509	-	-	-	12	503	1617	-	-	-	-	-	12	503	3.3	1617	180.1		
510-519	-	-	-	5	513	1730	-	-	-	-	-	5	513	2.4	1730	182.3		
520-529	-	-	-	10	524	1815	-	-	-	-	-	10	524	3.1	1815	197.3		
530-539	-	-	-	4	534	1788	-	-	-	-	-	4	534	4.6	1788	62.9		
540-549	-	-	-	5	545	2060	-	-	-	-	-	5	545	3.8	2060	41.8		
550-559	-	-	-	1	550	2100	-	-	-	-	-	1	550	-	2100	-		
570-579	-	-	-	1	578	2200	-	-	-	-	-	1	578	-	2200	-		
TOTAL	215			210			-	-	-	-	-	425						
MEAN		410	911		458	1272	-	-	-	-	-		434	41.7	1089	327.2		

Table 26. Length composition of commercial whitefish for each seasonal period from area IE, 1982.

LENGTH INTERVAL (MM)	WINTER			SPRING			SUMMER			FALL			TOTAL				
	MEAN	MEAN		MEAN	MEAN		MEAN	MEAN		MEAN	MEAN		FORK		DRESSED		
	FORK	DR.		FORK	DR.		FORK	DR.		FORK	DR.		LENGTH(MM)		WEIGHT(G)		
	NO.	LEN.	WT.	NO.	LEN.	WT.	NO.	LEN.	WT.	NO.	LEN.	WT.	NO.	MEAN	SD.	MEAN	SD.
(MM)	(MM)	(G)		(MM)	(G)		(MM)	(G)		(MM)	(G)						
310-319	-	-	-	1	315	450	-	-	-	-	-	-	1	315	-	450	-
340-349	1	343	550	1	345	600	-	-	-	-	-	-	2	344	1.4	575	35.4
350-359	1	353	550	3	355	617	1	354	700	-	-	-	5	355	2.9	620	57.0
360-369	1	368	700	9	366	689	-	-	-	1	366	650	11	366	2.6	686	59.5
370-379	11	373	650	12	374	758	4	375	700	1	376	692	33	374	3.1	703	69.5
380-389	24	384	750	15	383	797	7	384	786	9	385	711	55	384	3.0	761	58.3
390-399	34	394	807	30	394	865	8	396	819	24	394	817	96	394	3.0	829	77.7
400-409	46	404	851	39	404	937	15	406	903	27	405	876	127	404	2.9	889	73.7
410-419	38	415	925	32	414	1000	27	415	935	23	414	941	120	414	2.8	951	82.9
420-429	29	424	964	29	424	1062	37	424	991	31	424	977	126	424	2.9	998	99.0
430-439	18	434	1025	16	435	1184	33	434	1061	27	434	1109	94	434	2.8	1089	109.8
440-449	10	445	1070	8	444	1213	22	445	1132	23	444	1157	63	445	2.7	1141	109.8
450-459	1	452	1150	6	452	1258	16	457	1219	12	453	1258	35	455	3.1	1237	100.3
460-469	-	-	-	4	463	1450	21	464	1295	10	462	1340	35	464	2.5	1326	130.3
470-479	1	477	1350	2	472	1700	10	475	1410	8	474	1456	21	474	3.1	1452	117.8
480-489	-	-	-	1	482	1550	7	485	1493	4	483	1425	12	484	3.0	1475	91.7
490-499	-	-	-	-	-	-	2	493	1425	2	495	1625	4	494	3.5	1525	259.8
500-509	-	-	-	-	-	-	-	-	-	2	508	1725	2	508	0.7	1725	106.1
510-519	-	-	-	1	512	2100	-	-	-	-	-	-	1	512	-	2100	-
TOTAL	215			209			210			209			843				
MEAN		407	876		408	978		433	1071		425	1031		419	27.7	989	213.0

Table 27. Length composition of commercial whitefish for each seasonal period from area II, 1982.

LENGTH INTERVAL (MM)	WINTER			SPRING			SUMMER			FALL			TOTAL				
	MEAN		MEAN	MEAN		MEAN	MEAN		MEAN	MEAN		MEAN	FORK		DRESSED		
	FORK		DR.	FORK		DR.	FORK		DR.	FORK		DR.	LENGTH(MM)		WEIGHT(G)		
	NO.	(MM)	(G)	NO.	(MM)	(G)	NO.	(MM)	(G)	NO.	(MM)	(G)	NO.	MEAN	SD.	MEAN	SD.
320-329	-	-	-	-	-	-	-	-	1	322	450	1	322	-	-	450	-
330-339	-	-	-	-	-	-	1	333	550	3	337	517	4	336	2.2	525	28.9
340-349	-	-	-	-	-	-	4	347	563	3	342	500	7	345	3.1	536	62.7
350-359	-	-	-	-	-	-	4	355	638	5	353	540	9	354	2.9	583	90.1
360-369	-	-	-	-	-	-	9	364	672	10	364	655	19	364	2.5	663	52.3
370-379	-	-	-	-	-	-	6	376	725	24	374	708	30	375	2.7	712	52.0
380-389	-	-	-	-	-	-	23	384	761	21	384	760	44	384	2.8	760	56.0
390-399	-	-	-	-	-	-	24	396	817	32	394	806	56	395	2.9	811	54.5
400-409	-	-	-	-	-	-	30	405	865	34	404	872	64	404	2.6	869	53.1
410-419	-	-	-	-	-	-	27	415	930	22	413	920	49	414	3.0	926	68.6
420-429	-	-	-	-	-	-	19	426	997	28	423	946	47	424	2.9	967	71.7
430-439	-	-	-	-	-	-	19	434	1026	11	433	1005	30	434	2.8	1018	60.9
440-449	-	-	-	-	-	-	19	444	1092	6	446	1142	25	445	2.1	1104	79.0
450-459	-	-	-	-	-	-	9	455	1150	3	453	1100	12	455	3.3	1138	64.4
460-469	-	-	-	-	-	-	7	468	1307	3	463	1283	10	466	3.2	1300	102.7
470-479	-	-	-	-	-	-	6	472	1258	2	478	1475	8	474	3.1	1313	164.2
480-489	-	-	-	-	-	-	1	483	1300	-	-	-	1	483	-	1300	-
490-499	-	-	-	-	-	-	1	495	1450	-	-	-	1	495	-	1450	-
530-539	-	-	-	-	-	-	-	-	-	1	532	2300	1	532	-	2300	-
TOTAL	-	-	-	-	-	-	209	413	923	209	401	853	418	407	30.2	888	193.0
MEAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 28. Length composition of commercial whitefish for each seasonal period from area III, 1982.

LENGTH INTERVAL (MM)	WINTER			SPRING			SUMMER			FALL			TOTAL				
	MEAN		MEAN	MEAN		MEAN	MEAN		MEAN	MEAN		FORK		DRESSED			
	FORK		DR.	FORK		DR.	FORK		DR.	FORK		DR.	LENGTH(MM)		WEIGHT(G)		
	NO.	(MM)	(G)	NO.	(MM)	(G)	NO.	(MM)	(G)	NO.	(MM)	(G)	NO.	MEAN	SD.	MEAN	SD.
330-339	-	-	-	-	-	-	1	339	800	-	-	-	1	339	-	800	-
340-349	-	-	-	-	-	-	-	-	-	1	344	550	1	344	-	550	-
360-369	-	-	-	-	-	-	1	366	800	1	368	650	2	367	1.4	725	106.1
370-379	-	-	-	-	-	-	3	376	767	1	378	750	4	376	1.7	763	103.1
380-389	-	-	-	-	-	-	9	385	800	2	384	775	11	385	2.9	795	68.8
390-399	-	-	-	-	-	-	11	396	932	4	393	863	15	395	3.2	913	81.2
400-409	-	-	-	-	-	-	20	406	965	10	403	865	30	405	3.2	932	98.7
410-419	-	-	-	-	-	-	24	414	1033	15	415	1030	39	415	2.8	1032	79.0
420-429	-	-	-	-	-	-	35	424	1070	17	424	1021	52	424	2.7	1054	129.0
430-439	-	-	-	-	-	-	29	434	1169	19	433	1126	48	434	2.9	1152	118.0
440-449	-	-	-	-	-	-	25	444	1260	23	444	1198	48	444	2.7	1230	110.5
450-459	-	-	-	-	-	-	19	455	1384	24	454	1279	43	455	2.8	1326	182.0
460-469	-	-	-	-	-	-	14	464	1471	27	464	1413	41	464	2.7	1433	103.4
470-479	-	-	-	-	-	-	8	475	1469	18	474	1472	26	474	2.9	1471	130.5
480-489	-	-	-	-	-	-	9	483	1622	16	484	1606	25	483	2.7	1612	147.4
490-499	-	-	-	-	-	-	1	494	1750	13	493	1688	14	493	2.2	1693	204.6
500-509	-	-	-	-	-	-	1	501	1500	8	505	1894	9	505	3.5	1850	160.1
510-519	-	-	-	-	-	-	-	-	-	2	518	2150	2	518	0.7	2150	212.1
520-529	-	-	-	-	-	-	-	-	-	2	522	2100	2	522	0.0	2100	282.8
530-539	-	-	-	-	-	-	-	-	-	4	536	2388	4	536	2.8	2388	499.0
540-549	-	-	-	-	-	-	-	-	-	1	540	2000	1	540	-	2000	-
550-559	-	-	-	-	-	-	-	-	-	1	555	2950	1	555	-	2950	-
TOTAL	-	-	-	-	-	-	210	431	1166	209	454	1333	419	442	33.2	1249	326.5
MEAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





Table 31. Annual mortality rates for commercial whitefish from each area in 1982.

Area	Age-Classes Used	Survival (S)	SE of S	Var of S	Annual Mortality Rate (A)
IW	13-19	0.4425	0.0375	0.0014	0.5575
IE	12-17	0.3535	0.0215	0.0005	0.6465
II	10-20	0.5643	0.0235	0.0006	0.4357
III	13-16	0.2417	0.0389	0.0015	0.7583
IV	12-16	0.3235	0.0214	0.0005	0.6765
V	14-18	0.3736	0.0357	0.0013	0.6264
Total	13-20	0.3624	0.0145	0.0002	0.6376